

APPLICATION FOR UNITED STATES LETTERS PATENT

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INVENTION: METHOD AND APPARATUS FOR JOINING
ELECTRONIC CONFERENCE

S P E C I F I C A T I O N

This application is based on Patent Application No. 2000-351911 filed November 17, 2000 in Japan, the content of which is expressly incorporated hereinto by reference in its entirety.

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BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

10 The present invention relates to a method and apparatus for joining an electronic conference, and particularly to a method and apparatus for joining an electronic conference by using a simple procedure from a video game machine.

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DESCRIPTION OF THE RELATED ART

Video game machines with an Internet connection function can receive various services via servers of ISPs (Internet Service Providers). With these new services, for example, game software is distributed to video game machines and users can play battle games via a network. On the other hand, other new services can be provided by combining services relating to games with services such as electronic mail and conferences (hereafter referred to as "chats") which are conventionally provided on the Internet.

In a battle game, users playing the game via a network may be opponents or allies. If users who have become acquainted through a game have means for communication, they can exchange information on games to increase
5 enjoyment such of games. Further, if not only one-on-one battle games but also games that can be joined by many players are available, information exchanged based on chats are effective.

A problem with conventional video game machines,
10 however, is that they have the Internet connecting function but no application program for electronic mail or chats, thus requiring a separate general-purpose computer in order to send electronic mail or have chats.

Further, the conventional video game machines
15 require various procedures with an ISP, which are cumbersome both to a chat chairman and to guests. Moreover, if new guests are invited while a chat opening process is in progress, complicated procedures are required, thus making it difficult to increase chat guests.

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SUMMARY OF THE INVENTION

It is an object of the present invention to provide a method and apparatus for joining an electronic conference
25 which method and apparatus allow users to join a chat by means of a simple procedure from a video game machine even while the chat opening process is in progress.

To attain this object, an electronic conference joining method is provided by which a chairman who opens an electronic conference sets a particular area on a database and by which guests who join the electronic conference send a request for access to the area to a server from the guests' terminals. The chairman's terminal stores setup information for setting the area, in a storage section, creates an invitation message containing the setup information stored in the storage section. The chairman's terminal gives an instruction for transmission of the invitation message, and transmits an invitation signal containing the setup information to the guests' terminals depending on the instruction. The guests' terminals receives the invitation signal and obtain the setup information, create an access request signal containing the setup information, and transmit to the server, the access request signal in response to the guests' instruction.

The chairman's terminal may also receive an opening response signal from the server. The signal indicates that the area has been set in the database, in that the opening response signal contains an ID number for allowing the server to identify the area of the database. The chairman's terminal may also transmit the invitation signal containing the ID number, and add the ID number contained in the invitation signal to the access request signal.

A third invention is the first or second invention characterized in that the setup information contains at least one of a name of the electronic conference and a code number for accessing the area of the database.

5 A fourth invention is an electronic conference joining system by which a chairman who opens an electronic conference sets a particular area on a database and by which guests who join the electronic conference send a request for access to the area to a server from the guests' terminals. The chairman's terminal comprises a storage for storing setup information for setting the area and an invitation message creator for creating an invitation message containing the setup information stored in the storage. The chairman's terminal also indicates an
10 instruction device for giving an instruction for transmission of the invitation message created by the invitation message creator, and an invitation signal transmitter for transmitting an invitation signal containing the setup information to the guests' terminals depending on the instruction from the instruction device. The guests' terminals include a setup information retriever for receiving the invitation signal and obtaining the setup information, an access request signal source for creating an access request signal containing
15 the setup information obtained by the setup information retriever, and a request signal transmitter for transmitting to the server, the access request signal

created at the access request signal source in response to the guests' instruction.

The chairman's terminal may also include a receiver for receiving an opening response signal from the server.

5 The signal indicates that the area has been set in the database, in that the opening response signal contains an ID number for allowing the server to identify the area of the database. Moreover, the invitation signal transmitter may transmit the invitation signal containing
10 the ID number, and in that the access request signal source may add the ID number contained in the invitation signal to the access request signal. The setup information may contain either a name of the electronic conference or a code number for accessing the area of the database.

15 According to another of the present invention, a recording medium has programs recorded thereon. The programs control terminals in an electronic conference joining system by which a chairman who opens an electronic conference sets a particular area on a database and by which
20 guests who join the electronic conference send a request for access to the area to a server from the guests' terminals. The recording medium is readable by a computer and has to control the chairman's terminal, a program recorded thereon for causing the computer to execute
25 storing setup information for setting the area, in a storage section. The program also cause the computer to create an invitation message containing the setup

information stored in the storage section, give an instruction for transmission of the invitation message, and transmits an invitation signal containing the setup information to the guests' terminals depending on the
5 instruction. The recording medium has, to control the guests' terminals, a program recorded thereon for causing the computer to receive the invitation signal and obtain the setup information. The computer also creates access request signal containing the setup information, and
10 transmits to the server, the access request signal in response to the guests' instruction.

According to another aspect of the present invention, a program is provided for controlling terminals in an electronic conference joining system by which a chairman
15 who opens an electronic conference sets a particular area on a database and by which guests who join the electronic conference send a request for access to the area to a server from the guests' terminals. The program causes to control the chairman's terminal, a computer to store setup
20 information for setting the area, in a storage section and create an invitation message containing the setup information stored in the storage section. The computer also gives an instruction for transmission of the invitation message, and transmits an invitation signal
25 containing the setup information to the guests' terminals depending on the instruction. The program causes to control the guests' terminals, the computer to receive the

invitation signal and obtain the setup information. The computer also creates an access request signal containing the setup information, and transmits to the server, the access request signal in response to the guests'

5 instruction.

As described above, the present invention allows users to join a chat by using a simple procedure from a video game machine even while a chat opening process is in progress.

10 The above and other objects, effects, features and advantages of the present invention will become more apparent from the following description of embodiments thereof taken in conjunction with the accompanying drawings.

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BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a schematic view showing an example of a system configuration for providing electronic conference opening, according to the present invention;

FIG. 2 is a sequence diagram showing an example of the electronic conference opening, according to the present invention;

FIG. 3 is a view showing an example of a message for opening a chat in the electronic conference opening, according to the present invention;

FIG. 4 is a view showing an example of a message for

invitation to a chat in the electronic conference opening,
according to the present invention;

FIG. 5 is a view showing an example of a communication
data format for invitation to a chat in the electronic
5 conference opening, according to the present invention;

FIG. 6 is a view showing an example of a communication
data format for entering a chat in the electronic
conference opening, according to the present invention;
and

10 FIG. 7 is a block diagram showing an example of a video
game machine having the electronic conference opening,
mounted therein.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

15 Embodiments of the present invention will be
described below in detail with reference to the drawings.

FIG. 1 shows an example of a system configuration for
providing electronic conference opening according to the
20 present invention. The Internet 101 has a server of an
ISP, video game machine 103a and 103b, and general-purpose
components 104a and 104b connected thereto.

The ISP servers 102 comprises multiple servers
including an authentication server 111 for managing
25 accounts to authenticate users, a content server 112 for
providing services for allowing users to listen to and view
content such as sounds or videos, a message server 113 for

providing environments for chats or messengers, a mail server 114 for providing electronic mail services, a profile server 115 for managing users' profiles, and game servers 116a and 116b for providing game environments, all
5 of these servers are connected to the ISP server via a LAN 117.

With this configuration, a user accesses the authentication server 111 from the video game machine 103a or 103b or the general-purpose computer 104a or 104b via
10 the Internet 101, to have the user authenticated. The servers 102 transmit a menu screen to the authenticated user. The user selects one of services displayed on the menu screen to connect the video game machine 103a or 103b or the general-purpose computer 104a or 104b to one of the
15 groups of servers depending on the service, so that the user can receive the service.

FIG. 2 shows an example of electronic conference opening of the present invention. A user who desires to open a chat creates a message 201 for opening a chat, on
20 the video game machine 103a. When this message is sent, a chat opening request signal 202 is transmitted to the message server 113. The latter transmits a setup signal 203 for opening the desired chat room to a database in the group of servers and returns a chat opening response signal
25 204 to the user. The opening of a chat refers to an operation performed by the message server 113 to set a specified area in the database and grant accesses only to

particular users, that is, chat guests.

Upon receiving the chat opening response signal 204, the user can enter (join) the chat room by transmitting an enter room signal 205 to the database. The entry to
5 a chat room refers to an operation of having the user's access checked by the message server 113 to access a predetermined area of the database.

Further, a message 206 for invitation to the chat which is transmitted to the chat guests is displayed based
10 on the created message 201, and an invitation signal 207 is transmitted to all the guests. The video game machine 103b of an expected guest receiving the invitation signal 207 displays a screen 210 prompting the guest to enter the chat room, and the expected guest can join the chat by
15 transmitting a enter room signal 208 to the database. At this time, an invitation answer signal 209 indicating that the guest accepts the chairman's invitation is transmitted from the expected guest to the chairman. The invitation to a chat refers to an operation of granting a guest access
20 to an opened chat room and prompting the guest to join the chat.

After a chat has been opened, the invitation signal 207 can also be transmitted to new chat guests. The video game machine 103c, not shown in FIG.1, of an expected guest
25 receiving the invitation signal 207 displays the screen 210 prompting the guest to enter the chat room, and the expected guest can join the chat by transmitting the enter

room signal 208 to the database. At this time, the invitation answer signal 209 indicating that the guest accepts the chairman's invitation is transmitted from the expected guest to the chairman.

5 FIG. 3 shows an example of a message for opening a chat in the electronic conference opening of the present invention. This corresponds to the chat opening message 201 shown in FIG. 2 and is created and transmitted to the message server 113 by the chairman. The contents of the
10 chat opening message 201 request the message server 113 to open the chat room and to transmit the invitation message to the expected guests.

 The chat opening message 201 has a category 301 indicative of a type of message, and a message title 302
15 and a text box 303 that are required to transmit the invitation message to the expected guests. The message 201 also has input columns for a chat name 304 and a chat password 305 which are required to request the message server 113 to open the chat room.

20 FIG. 4 shows an example of a chat opening data signal format in the electronic conference opening of the present invention. This corresponds to the invitation message 206 shown in FIG. 2 and is created by the video game machine 103a based on the chat opening message 201 created by the
25 chairman. The setup information input to create the chat opening message 201 has been stored and is used to create the invitation message 206. The invitation message 206

differs from the chat opening message 201 shown in FIG. 3 in that the chat name 304 input through the chat opening message 201 is displayed as a room name 401 in the invitation message 206. The chat password 305 will be described later.

The invitation message 206 can be invoked while the chat opening process is in progress. The user can invoke and edit the invitation message 206 by performing an operation required to invoke the message or selecting guests from an address book while the chat opening process is in progress. Then, after the chat has been opened, the invitation signal 207 can be transmitted to other guests.

FIG. 5 shows an example of an invitation data signal format in the electronic conference opening of the present invention. This data signal format corresponds to the invitation signal 207 shown in FIG. 2 and is created by the video game machine 103a based on the invitation message 206. The video game machine 103a sets a user name 501 and a user ID 502 of the chairman which have already been registered. An "invitation" command 511 is generated by obtaining a chat name 512 and a chat password 513 from the contents of the chat opening message 201 and obtaining a chat ID 514 from the contents of the chat opening response signal 204.

The chat password 513 is set by obtaining it from the chat password 305 in the chat opening message 201 but is not displayed in the invitation message 206 shown in FIG.

4. The chat ID 514 is also not displayed. Upon receiving the invitation message 207, the video game machines 103b and 103c display the screen 210 prompting the guests to enter the chat room and create the Enter Room signal 208.

5 The screen 210 prompting the guests to enter the chat room also does not display the chat password 513 or the chat ID 514. That is, the chat password 513 and the chat ID 514 are recognized by the video game machines 103a to 103c during the exchange of the signals but are not communicated
10 to the guests through the screen. When cumbersome procedures required to set a chat are thus omitted, users can open and join a chat by means of a simple procedure from a video game machine.

FIG. 6 shows an example of a data signal format for
15 entering a chat room in the electronic conference opening of the present invention. This data signal format corresponds to the enter room signals 205 and 208 shown in FIG. 2. Here, the enter room signal 208 will be explained. When the guest selects "Enter Room" in the
20 screen 210 prompting the guests to enter the chat room, the video game machines 103b and 103c create and transmit the enter room signal 208 to the database of the group of message servers 113. The video game machine 103b sets a user name 601, a user ID 602, and a user password 603 of
25 the chairman which have already been registered. An "Enter Room" command 611 is generated by obtaining the chat name 512, the chat password 513, and the chat ID 514 from

the contents of the invitation signal 207.

According to this embodiment, even while the chat opening process is in progress, the video game machine 103a can invoke the invitation message 206 so that the
5 invitation signal 207 can be transmitted based on this message, thereby eliminating the need for cumbersome procedures for inviting guests. Further, the guests can join chats without any cumbersome procedure because the video game machines 103b and 103c generate the enter room
10 signal 208 from the contents of the invitation signal and transmit this signal.

FIG. 7 shows an example of a video game machine having the electronic conference opening ability of the present invention mounted therein. The video game machine 103 has
15 a CPU 711 for controlling the entire machine, a ROM 712 storing game programs and a program for the electronic conference opening of the present invention, a RAM 713 as a temporary storage area, and an Application Specific IC (ASIC) 714 for processing images, which are connected
20 together via a bus 715.

A CD-ROM drive 716 for loading the game programs and the program for the electronic conference opening of the present invention, from the CD-ROM storing these programs, a serial interface 717 connected to the game controller
25 701, a video interface 718 connected to a TV monitor 702, and a communications interface 719 for connection to the Internet 101 are also connected to the bus 715.

Of course, the present invention is achieved by causing the video game machine or general-purpose computer to read and execute program code of software from the storage medium storing these program codes, the software
5 implementing the electronic conference opening of the present invention. The storage medium for supplying the program code may include, for example, a floppy disk, a hard disk, a photo-electromagnetic disk, an optical disk, a CD-ROM, a CD-R, a magnetic tape, a non-volatile memory
10 card, and a ROM.

The electronic conference opening of the present invention is applicable not only to standalone general-purpose computers but also to a client server system including a group of computers

15 The present invention has been described in detail with respect to preferred embodiments, and it will now be apparent from the foregoing to those skilled in the art that changes and modifications may be made without departing from the invention in its broader aspects. It
20 is the intention, therefore, in the appended claims to cover all such changes and modifications that fall within the true spirit of the invention.